

*Catalogue of the Fossil Bryozoa in the Department of Geology, British Museum (Natural History).* Vol. ii., the Cretaceous Bryozoa. By Prof. J. W. Gregory, F.R.S. Pp. xlviii+346; 9 plates. (London: Printed by order of the Trustees, 1909.)

OWING to the author's absence from England and his retirement from the staff of the Museum, a period of ten years has elapsed between the date of publication of the present volume and its predecessor. This unusual delay has, however, been by no means an unmixed disadvantage, since it has enabled Prof. Gregory to incorporate information and to take advantage of theories of classification which would not have been available had this volume appeared several years earlier. It was originally intended to complete the subject in two volumes, but the wealth of material has rendered it necessary to allot a third volume—now in preparation by Prof. Gregory's successor in the Museum, Mr. W. D. Lang—to the Chilostomata.

In concluding his share of the work, Prof. Gregory gives a valuable general account of the Cretaceous bryozoan fauna and its relationships. The Cretaceous is the era in which the modern types of Bryozoa first attained to importance and replaced the older forms. The most characteristic group of the epoch is the Cyclostomata, which is now a waning type, and dates from the Jurassic. A second ordinal group, the Trepotomata, represents a Palæozoic type, which became decadent in the Upper Cretaceous, and finally disappeared in the Cænozoic. On the other hand, the Chilostomata, of which but two Jurassic species are known, attained an enormous development in the Upper Cretaceous, and forms the dominant type in the seas of to-day.

After a long review of the classification of the Cyclostomata, Prof. Gregory points out the value of the Bryozoa for zonal classification of the Chalk, remarking that recent investigations have shown—in contradistinction to older views—many of the species to have a very restricted vertical distribution.

The work is a most valuable and trustworthy contribution to the natural history of the Cretaceous Bryozoa, which, in Great Britain, at any rate, have previously received comparatively little attention at the hands of palæontologists.

*Problèmes et Exercices de Mathématiques générales.*

By Prof. E. Fabry. Pp. 420. (Paris: A. Hermann et Fils, 1910.) Price 10 francs.

THIS useful collection reminds us that mathematical examinations are not peculiar to Great Britain, and provides an interesting specimen of the kind of questions set in France to candidates of about the same standing as English candidates for an ordinary science degree. It contains the enunciations of 739 problems, ranging from elementary algebra and calculus to solid geometry and differential equations, and also including about a hundred questions in statics and dynamics. Pages 81–420 contain the solutions, which, as might be expected, are clear and elegant. No book of this kind can supply the place of a competent teacher, but a student who has to work by himself will find Prof. Fabry's work very helpful, and a good model in point of style.

M.

NO. 2123, VOL. 84]

## LETTERS TO THE EDITOR.

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### Arthur's Round Table in Glamorgan.

THE history of the Gorsedd of the Bards is closely bound up with the history of Glamorgan. Early in the history of the winning of the district by the Anglo-Normans, one of the earls of Gloucester, as lord of Glamorgan, took the institution under his protection and patronage, and it became known as Gorsedd Tir Iarll, "Gorsedd of the Earl's Land," and the district, comprising the parishes of Llangynwyd, Bettws, and Margam, is still called after the title of the noble patron of the bards. From about the middle of the twelfth century, the history of the institution, as well as the succession of presiding bards, is as clear as one might expect to find the history of a largely secret society to be. What history is recorded in bardic writings of the institution before that date represents it as Arthur's Round Table, moved from place to place with



The Maesteg Circle-avenue and its Builders.

the seat of government, from Caerleon-upon-Usk to Loughor, back to Cardiff, its wanderings having been confined within the boundaries of the diocese of Llandaff, until finally it found a resting-place in the Earl's Land. There is little reason to doubt the substantial truth of such records, and it is something to note that Arthur's Round Table, by name, has been all along regarded as the living institution known as Gorsedd of the Bards of the Isle of Britain.

There are bards still living who were received as members of the Gorsedd by bards who represented an unbroken tradition and succession in the Earl's Land at least from the twelfth century. One of these bards, "Morien," known also as "Gwyddon Tir Iarll," was present at the "re-awakening," in bardic parlance, of Arthur's Round Table on June 22, 1910, when a temple-observatory, which I had the honour of erecting at Maesteg, in the parish of Llangynwyd, the centre of the Earl's Land, was duly opened by the Archdruid of Wales, assisted by officers and members of the National Gorsedd, and other bards and friends of the bardic cause.

In designing the work, I endeavoured to combine the essential requirements of bardic tradition with all the ascertained principles of primitive architecture as shown in monuments of which the bardic Gorsedd is a representative. Every detail was based either on tradition or

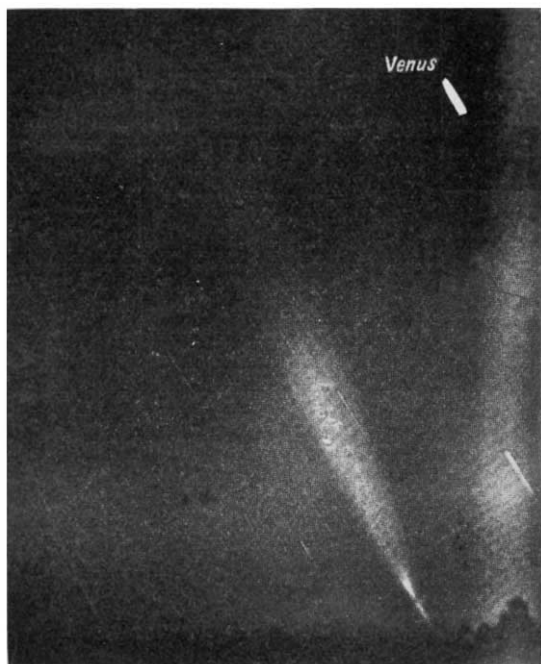
actual practice as observed in monuments. As at Avebury and Stonehenge, the avenue was added to the circle. Each stone selected has a fairly straight side, which has been utilised as an independent alignment. The avenue, as well as the tallest stone, are approximately oriented to the sun's place on St. David's Day, March 1. Three divisions of the year, and alignments to sunrise or sunset for every three weeks, are provided by the stones. The use of each stone will be found by keeping its straight side to the right. The diameter of the circle is 27 feet; the length of the avenue 54 feet; the total length of the work is 81 feet. In all such measurements, the Gorsedd rule that all extensions should be in threes, or multiples of three, was observed. The width of the avenue represents the distance, as measured on the horizon and viewed from the centre stone, between Candlemas and the equinox. True to ancient practice, the westward view of the avenue is "blocked" by a stone, which otherwise represents the fashion in Aberdeenshire circles, noticed by Sir Norman Lockyer, of placing a stone at right angles to the direction required.

JOHN GRIFFITH.

Llangynwyd, Glam.

### Halley's Comet.

I DO not know if the enclosed is of any general interest or not; it is an attempt to photograph Halley's comet (as seen here) without any special apparatus. The tail was about 90° long on May 17, and probably 115° on May 18,



Halley's Comet in Pisces as seen at 5.30 a.m. on May 17 with 15' exposure.

taking the calculated position of the nucleus, which had not risen when dawn came. On May 20 (on the other side) the tail was only 15° or 20° long, but both twilight and moon interfered. It was 35° long on May 23.

JAMES MOIR.

Mines Department, Johannesburg, June 10.

### Earth-current Observations in Stockholm during the Transit of Halley's Comet on May 19.

WHEN Halley's comet was passing across the sun on May 19 we took, at the central telegraph station at Stockholm, some observations of earth-currents, which were measured on two lines, Stockholm-Göteborg and Sundsvall-Stockholm. The measurements were performed from minute to minute from oh. 40m. to 3h. 45m. a.m. (mid-European time). The geographical coordinates for the three places mentioned are the following:—

NO. 2123, VOL. 84]

Sundsvall ...	$\phi = 62^{\circ} 23' N.$	$\lambda = 17^{\circ} 19' E.$	from Greenwich
Stockholm ..	$59^{\circ} 21'$	$18^{\circ}$	
Göteborg ...	$57^{\circ} 42'$	$11^{\circ} 58'$	

The resistance of the line Stockholm-Göteborg was 2940 ohms, and that of the line Sundsvall-Stockholm 2336 ohms. From the current-strengths measured in milliamperes we obtain the potential differences expressed in millivolts per km. by multiplication with  $r/l$ ,  $r$  indicating the ohm-resistance of the line and  $l$  the distance in km. from end to end. For calculating the components of the potential difference E.-W. (V) and N.-S. (V') we have the formulæ

$$V = 7.73i - 3.32i'$$

$$V' = 0.87ii + 6.60i'$$

$i$  and  $i'$  indicating the observed current-strengths on the Stockholm-Göteborg and the Sundsvall-Stockholm lines. The measured current-strengths proved considerably above the normal at this time of day, though by no means reaching to that of a magnetic storm. The two components, expressed in millivolts per km. (every fifteenth minute), are as follows. The potential differences are considered positive in the directions E.-W. and N.-S.:—

h. m.	V	V'	h. m.	V	V'
0 45 ...	-55.6 ...	-6.3 ...	2 15 ...	-16.5 ...	+24.6
1 0 ...	-6.8 ...	+2.0 ...	0 30 ...	-23.5 ...	+12.7
0 15 ...	+3.9 ...	+0.4 ...	0 45 ...	-25.5 ...	+16.7
0 30 ...	-3.4 ...	-9.5 ...	3 0 ...	-7.2 ...	+1.3
0 45 ...	-6.2 ...	+4.2 ...	0 16 ...	-0.4 ...	-5.6
2 0 ...	-8.0 ...	+15.8 ...	0 30 ...	-8.8 ...	-10.2
			0 45 ...	-16.9 ...	+2.9

The greatest disturbances occurred shortly before and after 2h. a.m.: V max. = +68.1, V' max. = +56.6 millivolts per km.

D. STENQUIST.  
E. PETRI.

### Leptocephalus hyoprорoides and L. thorianus.

IN my paper "On the Occurrence of Leptocephali (Larval Murænoids) in the Atlantic West of Europe" (*Meddelelser fra Kommissionen for Havundersøgelser, Serie Fiskeri, Bind iii., No. 6, 1909, p. 12, Pl. i., Fig. 8, Pl. ii., Figs. 1-7*), I have described and figured a hitherto unknown Leptocephalus species under the name of *Leptocephalus hyoprорoides*, n.sp. It had escaped my attention, however, that this name had already been employed by P. Strömman in "Leptocephalids in the University Zoological Museum at Upsala," Upsala, 1896, p. 39, Pl. iv., Figs. 5-6, for another form similar in habit, but differing quite definitely in several characters, e.g. the pigmentation and position of the anus, from the form described by me. I would therefore propose that the name of the latter should be changed to *Leptocephalus thorianus*, n.sp. (after the Danish research steamer *Thor*, on the cruises of which the species in question was discovered).

JOHS. SCHMIDT.

### Static Charge in Bicycle Frame

WHILE riding a bicycle recently I was overtaken by a thunderstorm, and took shelter beneath a convenient tree after propping the machine against a wall. When the rain had ceased, in the course of about fifteen minutes, I re-mounted, with my hands upon the handles in the usual manner. The handles are of composition, resembling vulcanite or a similar non-conducting material, the pedals are shod with rubber, and the leather saddle completes the insulation of the rider from the frame. Upon exchanging my grip of one of the handles for the bar, I felt the effects of a static charge which was sufficiently startling to endanger equilibrium for the moment. I do not suggest that the pneumatic tyre, which successfully insulates a vehicle from the earth, adds a new terror to locomotion, for even a timid rider in traffic would hardly be endangered, but it would be interesting to know if this phenomenon has been observed before, either on cycles or motor-cars.

ROBERT S. BALL, JUN.

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July 2.